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Today's Topics:
                         OSCAR Freqs?
                Two-Line Orbital Element Set Format

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 1 Aug 1994 00:22:34 -0700
From: nntp.crl.com!crl.crl.com!not-for-mail@decwrl.dec.com
Subject: OSCAR Freqs?
To: ham-space@ucsd.edu

How do I found out what frequencies the OSCAR satelites use?

Dennis

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    Dennis Rice   drice@crl.com
    NAU Flagstaff, AZ   drr1@nauvax.ucc.nau.edu
    Call Sign: <I take the test Aug. 6)

Date: Fri, 29 Jul 1994 21:33:24 -0600
From: spool.mu.edu!bloom-beacon.mit.edu!senator-bedfellow.mit.edu!
pschleck@uunet.uu.net

As a service to the satellite user community, the following description of the
NORAD two-line orbital element set format is uploaded to sci.space.news and
rec.radio.info on a monthly basis. The most current orbital elements
from the NORAD two-line element sets are carried on the Celestial BBS, (513)
253-9767, and are updated daily (when possible). Documentation and tracking
software are also available on this system. The Celestial BBS may be accessed
24 hours/day at 300, 1200, 2400, 4800, or 9600 bps using 8 data bits, 1 stop
bit, no parity. In addition, element sets (also updated daily) and some
documentation and software are also available via anonymous ftp from
archive.afit.af.mil (129.92.1.66) in the directory pub/space.

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Data for each satellite consists of three lines in the following format:

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AAAAAAAAAAA
1 NNNNNU NNNNNAAA NNNNN.NNNNNNNN +.NNNNNNNN +NNNNN-N +NNNNN-N N NNNNN
2 NNNNN NNN.NNNN NNN.NNNN NNNNNNN NNN.NNNN NNN.NNNN NN.NNNNNNNNNNNNNN
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Line 0 is a eleven-character name.

Lines 1 and 2 are the standard Two-Line Orbital Element Set Format identical
to that used by NORAD and NASA. The format description is:

Line 1
Column   Description
 01-01   Line Number of Element Data
 03-07   Satellite Number
 10-11   International Designator (Last two digits of launch year)
 12-14   International Designator (Launch number of the year)
 15-17   International Designator (Piece of launch)
 19-20   Epoch Year (Last two digits of year)
 21-32   Epoch (Julian Day and fractional portion of the day)
 34-43   First Time Derivative of the Mean Motion
        or Ballistic Coefficient (Depending on ephemeris type)
 45-52   Second Time Derivative of Mean Motion (decimal point assumed;
            blank if N/A)
 54-61   BSTAR drag term if GP4 general perturbation theory was used.
            Otherwise, radiation pressure coefficient. (Decimal point assumed)
 63-63   Ephemeris type
 65-68   Element number
 69-69   Check Sum (Modulo 10)
            (Letters, blanks, periods, plus signs = 0; minus signs = 1)

Line 2

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Column     Description
 01-01     Line Number of Element Data
 03-07     Satellite Number
 09-16     Inclination [Degrees]
 18-25     Right Ascension of the Ascending Node [Degrees]
 27-33     Eccentricity (decimal point assumed)
 35-42     Argument of Perigee [Degrees]
 44-51     Mean Anomaly [Degrees]
 53-63     Mean Motion [Revs per day]
 64-68     Revolution number at epoch [Revs]
 69-69     Check Sum (Modulo 10)

All other columns are blank or fixed.

Example:

NOAA 6
1 11416U          86 50.28438588 0.00000140          67960-4 0  5293
2 11416  98.5105  69.3305 0012788  63.2828 296.9658 14.24899292346978
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